Those that argue that the industrialized state – whether developed or developing – is currently unsustainable emphasize toxic pollution, climate change, resource depletion, and problems related to the loss of biodiversity and ecosystem integrity. The environmental burdens are felt unequally within nations, between nations, and between generations, giving rise to international, intra-national, and intergenerational equity concerns of ‘environmental injustice’.

Environmental problems stem from the activities concerned with agriculture, manufacturing, extraction, transportation, construction, energy, and services – all driven by the demand of consumers, commercial entities, and government. But in addition, there are effects of these activities on the amount, security, and skill of employment, the nature and conditions of work, job security, and purchasing power associated with wages. An increasing concern is economic inequity stemming from inadequate and unequal purchasing power within and between nations – and for the workers and citizens of the future. Thus, both environmental and employment concerns must be seen as essential goals of sustainable transformations.

Whether solutions involving industry initiatives, government intervention, stakeholder involvement, and financing can resolve these unsustainability problems depends on correcting a number of fundamental faults in the characteristics of the industrial state: (1) fragmentation of the knowledge base leading to myopic understanding of fundamental problems and the resulting fashioning of single-purpose or narrowly-fashioned solutions by technical and political decision-makers, (2) the inequality of access to economic and political power, (3) the tendency towards ‘gerondocracy’ – governance of industrial systems by old ideas, (4) the failure of markets both to correctly price the adverse consequences of industrial activity, and (5) to deal sensibly with effects which span long time horizons for which prices and markets are inherently incapable of solving.

It is widely acknowledged that regime shifts of current production/consumption systems are needed, but whether these shifts can be encouraged to a sufficient degree – and within the needed time horizons -- through policies that promote evolution from, or alliances with, the current dominant actors engaged in extraction, manufacturing, energy, agriculture, transport, and construction remains to be seen. This presentation challenges the notion that ‘strategic niche management’ or ‘transition management’ gets you there. It is argued that regulatory approaches and a strong government role are essential for success. Further, achieving the triple goals of cooptimizing competitiveness, environmental quality, and employment is not likely to result from the private sector left to its own devices.

Approaches for encouraging sustainable industrial transformations must be focused simultaneously on co-optimizing improvements in competitiveness, environment, and employment in an integrated, rather than merely coordinated, manner by fashioning winning forces and scenarios through both regulation and providing the correct incentives. Here government must play a key role, partly because the private sector is unlikely to adopt a comprehensive approach to problem solving. This involves broadening/opening up the policy agenda beyond environmental concerns; removing perverse incentives for unsustainable practices; avoiding lock-in and agenda/government capture by incumbent industry and other stakeholders; government acting a trustee for industrial transformations, not merely a referee of competing interests; and balancing the policy portfolio more towards market pull, rather than technology push. If they are to succeed, these approaches must move the policy agenda from the coordination of the currently-fragmented knowledge base to policy integration. Further they must be vigilant to reject clearly wrong time horizons and to choose the right time horizon for policies; the time horizons must not be too short, but they must not be too long either. Finally, the necessary and sufficient conditions for change must be addressed in policy initiatives: the willingness, opportunity/motivation, and capacity for the private sector, government, and people to change.